Twin Cities Campus

Physics Minor

School of Physics & Astronomy

College of Liberal Arts

- Program Type: Undergraduate minor related to major
- Requirements for this program are current for Fall 2017
- Required credits in this minor: 37

See the major description for more information.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Minor Requirements

Physics minors must take all required physics and mathematics courses A-F (except those offered S-N only). Students may earn no more than one degree in the Department of Physics: a BA or a BS or a minor.

Mathematics

Take 12 credits.

MATH 1371 - CSE Calculus I [MATH] (4.0 cr)
or MATH 1271 - Calculus I [MATH] (4.0 cr)
MATH 1372 - CSE Calculus II (4.0 cr)
or MATH 1272 - Calculus II (4.0 cr)
MATH 2373 - CSE Linear Algebra and Differential Equations (4.0 cr)
or MATH 2243 - Linear Algebra and Differential Equations (4.0 cr)

or **Honors Sequence**

MATH 1571H - Honors Calculus I [MATH] (4.0 cr)
MATH 1572H - Honors Calculus II (4.0 cr)
MATH 2573H - Honors Calculus III (4.0 cr)

Physics Sequence

Take 25 credits.

PHYS 2201 - Introductory Thermodynamics and Statistical Physics (4.0 cr)

Physics I

PHYS 1301W - Introductory Physics for Science and Engineering I [PHYS, WI] (4.0 cr)
or PHYS 1401V - Honors Physics I [PHYS, WI] (4.0 cr)
or PHYS 1501V *{Inactive}*[PHYS, WI] (4.0 cr)

Physics II

PHYS 1302W - Introductory Physics for Science and Engineering II [PHYS, WI] (4.0 cr)
or PHYS 1402V - Honors Physics II [PHYS, WI] (4.0 cr)
or PHYS 1502V *{Inactive}*[PHYS, WI] (4.0 cr)

Physics III

PHYS 2503 - Physics III: Intro to Waves, Optics, and Special Relativity (4.0 cr)
or PHYS 2503H - Honors Physics III (4.0 cr)

Quantum Physics

PHYS 2601 - Quantum Physics (4.0 cr)
PHYS 2605 *{Inactive}*(3.0 cr)

Physics/Astrophysics Elective

Take 3 or more credit(s) from the following:

- PHYS 3022 - Introduction to Cosmology (3.0 cr)
- PHYS 4001 - Analytical Mechanics (4.0 cr)
- PHYS 4002 - Electricity and Magnetism (4.0 cr)
- PHYS 4041 - Computational Methods in the Physical Sciences (4.0 cr)
- PHYS 4051 - Methods of Experimental Physics I (5.0 cr)
- PHYS 4052W - Methods of Experimental Physics II [WI] (5.0 cr)
- PHYS 4101 - Quantum Mechanics (4.0 cr)
- PHYS 4121W - History of 20th-Century Physics [WI] (3.0 cr)
- PHYS 4201 - Statistical and Thermal Physics (3.0 cr)

© 2005 by the Regents of the University of Minnesota
The University of Minnesota is an equal opportunity educator and employer.

- PHYS 4211 - Introduction to Solid-State Physics (3.0 cr)
- PHYS 4303 - Electrodynamics and Waves (3.0 cr)
- PHYS 4511 - Introduction to Nuclear and Particle Physics (3.0 cr)
- PHYS 4611 - Introduction to Space Physics (3.0 cr)
- PHYS 4621 - Introduction to Plasma Physics (3.0 cr)
- PHYS 4911 - Introduction to Biopolymer Physics (3.0 cr)
- PHYS 5001 - Quantum Mechanics I (4.0 cr)
- PHYS 5002 - Quantum Mechanics II (4.0 cr)
- PHYS 5011 - Classical Physics I (4.0 cr)
- PHYS 5012 - Classical Physics II (4.0 cr)
- PHYS 5022 - Relativity, Cosmology, and the Universe (4.0 cr)
- PHYS 5041 - Mathematical Methods for Physics (4.0 cr)
- PHYS 5042 *{Inactive}*(4.0 cr)
- PHYS 5081 - Introduction to Biopolymer Physics (3.0 cr)
- PHYS 5201 - Thermal and Statistical Physics (3.0 cr)
- PHYS 5401 *{Inactive}*(4.0 cr)
- PHYS 5402 *{Inactive}*(4.0 cr)
- PHYS 5621 - Introduction to Plasma Physics (3.0 cr)
- PHYS 5701 - Solid-State Physics for Engineers and Scientists (4.0 cr)
- AST 4002 - Astrophysics II (4.0 cr)
- AST 4001 - Astrophysics I (4.0 cr)
- AST 4031 - Interpretation and Analysis of Astrophysical Data (4.0 cr)
- AST 4041 - Computational Methods in the Physical Sciences (4.0 cr)
- AST 5001 *{Inactive}*(4.0 cr)
- AST 5012 - The Interstellar Medium (4.0 cr)
- AST 5022 - Relativity, Cosmology, and the Universe (4.0 cr)
- AST 5201 - Methods of Experimental Astrophysics (4.0 cr)

© 2005 by the Regents of the University of Minnesota
The University of Minnesota is an equal opportunity educator and employer.